

REMARKS

CLAIM AMENDMENTS

Applicant amends the claims to more clearly recite the subject matter of the invention.

In particular, Applicant amends the claims to eliminate unnecessary recitations of function, recitations of environment of use, and unnecessary verbiage.

The foregoing claim amendments are not intended as an admission that Applicant considers the claims prior to amendment as being unpatentable over the cited art. Applicant amends the claims solely to clarify the recitation of the invention and to thereby expedite the prosecution of this application.

SECTION 102 REJECTION

Applicant requests the Office's consideration of claim 1's recitation of the relative locations of the two fibers and the two reflective surfaces. In claim 1, the first fiber is constrained to be adjacent to the first reflective surface and the second fiber is constrained to be adjacent to the second reflective surface. In particular, claim 1 as amended requires

a delivery fiber having a distal end *adjacent to said first* reflective surface;

a collection fiber having a distal end *adjacent to said second* reflective surface;

As best understood, the Examiner considers the claimed first and second reflective surfaces to correspond to *Winston's* reflector **38** and inclined mirror **70**.

If, as the Office proposes, one were to replace the single optical fiber **30** in FIG. 4 with the bundle of fibers shown in FIG. 19, the result would be a structure in which *all* the fibers **30** are adjacent to the *same* inclined mirror **70**. *None* of the fibers **30** would be adjacent to the reflector **38**. Hence, the resulting structure would be unable to meet both of the foregoing claim limitations at the same time.

This distinction between the claimed structure and that obtained by combining FIGS. 19 and 4 of *Winston* is a natural result of differences in their respective functions.

In Applicant's invention, one fiber is a *delivery* fiber **44** and the other fiber is a *collection* fiber **30**. The two fibers carry out *different* functions. This is different from *Winston*, in which all fibers **30** carry out the *same* function.

Applicant's delivery fiber **44** delivers light to an "illumination site" on the arterial wall. Applicant's collection fiber **30** collects scattered light that has passed through a "collection site" on the arterial wall. Because the illumination site and the collection site are at different locations, the two fibers use different mirrors **36**, **42** to direct light into and out of the fibers. The mirror **36** adjacent to the collection fiber **30**, (i.e. the "collection mirror") is aimed at the collection site; the mirror **42** adjacent to the delivery fiber **44** (i.e. the "illumination mirror") is aimed at the illumination site.

It is important that the two mirrors point to different sites. To see why, consider the problem of viewing a fish underwater at night. If you were to shine a light and stand directly above the "illumination site," as shown in FIG. 1 of the enclosed exhibit, most of what you would see would be glare. A better way to spot fish would be to have someone else shine the light straight down, to move some distance away, and to peer through a "collection site" as shown in FIG. 2. This would avoid most of the glare and enable one to more clearly see what lies beneath the surface.

Applicant's claimed invention is, of course, not intended to spot fish hidden beneath the surface of water. It is intended to spot vulnerable plaque hidden behind an arterial wall. Applicant has recognized that there exists a similarity between the technical problems in each case. By recognizing a principle at work in the fish-spotting arts and marrying it to the completely unrelated field of vulnerable-plaque detection, Applicant has demonstrated a leap of inventive imagination and brought it to fruition in the claimed device.

The proposed *Winston* structure is different. As indicated by *Winston*'s FIG. 4, light exiting the fibers 30 bounces off the inclined mirror 70 toward the reflector 38. The light then bounces off the reflector 38, this time in the distal direction. This light path is the same whether the light comes from a single fiber or from multiple fibers.

Winston has nothing to do with spotting structures hidden beneath the arterial wall. *Winston* fails to disclose a structure having both a delivery fiber that illuminates a surface and a collection fiber that collects light scattered from structures hidden beneath the surface. In *Winston*, all the fibers 30 are in optical communication with the same general location. Hence, all fibers are adjacent to the same mirror 70.

The Office suggests that one would readily replace one fiber with many when all the fibers carry out the same function. This is not the case here. In Applicant's claimed invention, the fibers do not carry out the same function at all. Hence, one cannot simply cause them both to point to the same location without undermining the claimed invention's ability to detect vulnerable plaque.

The remaining claims recite limitations similar to those discussed above. Accordingly, they are allowable for at least the same reasons as claim 1.

Based on the foregoing distinction between the claimed invention and the cited art, Applicant requests reconsideration and withdrawal of the section 102 rejection.

SUMMARY

Now pending in this application are claims 1-43, 45-48, of which claims 1, 20, 33, 39, and 41 are independent. Claim 44 has been canceled. Claims 9-12, 26-29, and 38 have been deemed allowable.

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No additional fees are believed to be due in connection with the filing of this request for continued examination. However, to the extent fees are due, or if a refund is forthcoming, please adjust our deposit account 06-1050, referencing attorney docket "12258-032001."

Respectfully submitted,

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